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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/585,240 | 06/29/2006 | Jeoung-Jun Hwang | 7045P003 | 9202 |

8791 7590 11/01/2007
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| EXAMINER |
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LISTVOYB, GREGORY

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| ART UNIT | PAPER NUMBER |
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1796

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| MAIL DATE | DELIVERY MODE |
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11/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,240

Applicant(s)

HWANG ET AL.

Examiner

Gregory Listvoyb

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/29/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the step" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 claims caprolactam, having 2 or more carbon atoms. Caprolactam ~~has~~ has six carbon atoms.

Applicant claims that the number of the repeating unit in the macrocyclic polyester oligomer is 1 to 50. By definition an oligomer has more than one repeating units.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al (US 2002/0049285) herein Abe in combination with Phelps et al (US 6436548) herein Phelps.

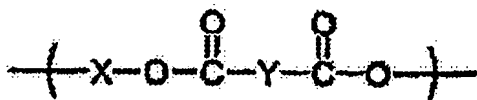
Abe disclose a method for preparation of polyester copolymer having amide links comprising copolymerizing a cyclic amide (i.e. caprolactam, see line 0023, meeting the limitations of Claim 5) and a cyclic ester with carbon atom number of C3-C12 (see line 0068),, where the amount of the ester is within the range of 1-99% (see line 0037, meeting the limitations of Claim 6).

Abe does not disclose that his cyclic ester is oligoester.

Phelps discloses a macrocyclic polyester and method of its preparation (see Abstract).

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Regarding Claim 2, Phelps discloses macrocyclic polyester oligomer includes the repeating unit of the following formula



(see column 4, line 15)

where X represents alkylene radical or oxyalkylene radical having more than 2 Carbon atoms (see Column 3, line 10), and Y represents aromatic or alicyclic radical, and the number of the repeating unit in the macrocyclic polyester oligomer is 2 to 20 (see Column 4, line 20).

Regarding Claims 3 and 4, Phelps discloses a method for preparing polyester Copolymer where the macrocyclic polyester oligomer is obtained by reacting bis(hydroxyalkyl)ester, with dicarboxylic acid chloride in the presence of unhindered amine (see Column 4, line 35) and alternative method where the bis(hydroxyalkyl)ester is obtained by depolymerizing polyester resin (see Column 4, line 55).

Macrocyclic polyesters possess very low melt viscosity, which makes them desirable in forming melted articles with complex shapes (see Phelps, Column 1, line 30). In addition, low melt viscosity makes the process more economical, since lower energy needed to process the polymer.

Therefore, it would have been obvious to a person of ordinary skills in the art to use Phelps's macrocyclic polyesters in Abe's compositions in order to produce articles with complex shapes and make the process more economical by lowering energy consumption.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb

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Examiner
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GL


RABON SERGENT
PRIMARY EXAMINER